

IGEM TU DELFT LEIDEN 2014

IGEM TEAM: TU DELFT LEIDEN 2014

Bronze, silver and gold medals can be earned in every iGEM competition. A list of requirements need to be met in order to earn each medal. On top of this there are also prizes for the three best projects overall. In 2013 only 40 % earned a gold medal. The TU Delft iGEM team won gold medals in 2008, 2009, 2010, 2012 and 2013.

2008

Prize: **Best wiki page**
Temperature sensing
E. Coli.

2009

Prize: **Best**
information project
A cell-to-cell
communication
system.

2010

FINALIST
Prize: **Best presentation**
Cleaning oil spills with
bacteria

2012

Prize: **Best debate**
A modular system
for detecting volatile
compounds.

2013

Antimicrobial peptides
to kill antibiotic
resistant MRSA.

WHAT IS IGEM?

The International Genetically Engineered Machine competition (iGEM) is the premiere undergraduate synthetic biology competition. iGEM started in 2003 with a month-long course during MIT's Independent Activities Period; the first year's students designed biological systems to make cells blink.

This design course grew 5 teams in 2003 to 244 teams in 2014. The teams consist entirely of students and are guided by supervisors of different backgrounds. Working at their universities over the summer, teams design synthetically enhanced organisms. Each iGEM team must also make its own wiki page and work on fundraising, budget, public relations and human practice.

Some teams also make their own gadget based on their synthetically enhanced organism.

In the first week of November, multi-disciplinary teams from around the world will meet in Boston to compete in the Jamboree. Their work will be presented to a large scientific community at the Hynes Convention Center.

This year, a team of 13 enthusiastic students, with diverse backgrounds, from TU Delft, Leiden University and Rotterdam University is aiming to bring biology and electronics closer together, resulting in a cool and necessary application. We will design and produce an *Escherichia coli* strain that can transport electrons and detect landmines as a final application.

DEMINING: A GLOBAL ISSUE

The detection of landmines is important, because they need to be removed where possible. This removal is essential, as landmines are always a danger, not only in time of war, but also in time of peace.

Landmines have been used during war in many different countries over the past decades as a strategic military weapon, but when the war is over and the danger seems past, these landmines are still active and can be triggered easily.

Civilians that are passing by can trigger the landmine, causing a devastating explosion that causes imminent death in many cases. Most victims are children, as they are smaller in general and sometimes see modern colourful mines as toys.

Annually there are 15,000 to 20,000 deaths caused by landmines, not even counting the injuries. These numbers are a reason for us to participate in iGEM with the project we chose.



Electrace

Our project is called ELECTRACE, which stands for ELECTron TRANsport deviCE.

We are going to design an Escherichia coli strain that can detect the chemicals that are secreted by landmines (which are primarily TNT, DNT and DNB) and initiate a current by using electron transport, resulting in the visualisation of landmines in the ground.

This can be done by using the relation between the concentration of the detected chemicals and the distance to the landmine.

Eventually, we would like to incorporate this into a ready-to-use device. This device will be easily usable for everyone, including children, all over the world.

The team of 2012 made one of the biggest newspapers in the Netherlands, the NRC Handelsblad, with a two-page article. This year we even want more publicity, as we want to give people the chance to learn about synthetic biology.

All these projects are very progressive and many of these projects are well known to people all over the world. iGEM has been part of the Dream Team family since 2011 and is proud to be part of this family.

[illegible]

BENEFITS

CONTACT

BENEFITS PACKAGE:	BRONZE	SILVER	GOLD
Interaction with top students from TU Delft, Leiden, and Rotterdam Universities	✓	✓	✓
Investing in Sustainability	✓	✓	✓
Named Partner			✓
Named Investor	✓	✓	
Logo on the iGEM wiki page	✓	✓	✓
Logo on the Facebook page	✓	✓	✓
CVs of team members	✓	✓	✓
Featured post on Facebook page		✓	✓
Featured post on Twitter		✓	✓
Logo on the iGEM poster in Boston		✓	✓
Logo at the end of presentation		✓	✓
Logo on every presentation slide			✓
Logo on the lab coats			✓
Logo on iGEM team clothing			✓
Participation to the in-house day			✓
Distribution of promotional materials			✓

If you still have questions, do not hesitate to contact us!

iGEM office

Room 0.620 Biotechnology building TU Delft
 Julianalaan 67
 2628 BC Delft
 The Netherlands
 +3115 2783394
 tudelft.igem@gmail.com

Fundraising responsible

Janna Bogers
 j.f.m.bogers@student.tudelft.nl
 +316 16502602
 Dutch and English

Team leader

Anamaria Buda
 a.buda@student.tudelft.nl
 +316 19139547
 English only